REMARKS

Claims 1-25 are pending in the present patent application. Claims 1-25 stand rejected. This application continues to include claims 1-25.

The Examiner rejected claims 1 and 11 under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Examiner asserts that a computer-related invention, whether it is descriptive or functionally descriptive material, is a non-statutory category when claimed as descriptive material *per se*. Applicants respectfully disagree that claims 1 and 11 are directed to non-statutory subject matter for at least the reasons set forth below.

Claim 1 is directed to a method of automatically assigning an internet protocol address to a device. Claim 1 recites providing a network; providing a computer communicatively coupled to said network; providing a network adapter to communicatively couple said device to said network, said network providing communicative interconnection between said computer and said network adapter; said computer performing the steps of: generating an internet protocol address; incorporating said internet protocol address in an address resolution protocol probe; sending said address resolution protocol probe on said network; and determining whether a response to said address resolution protocol probe indicates that said internet protocol address is in use; wherein if said internet protocol address is not in use, then performing the step of assigning said internet protocol address to said network adapter via said network.

MPEP 2106(1)(a) provides that if a computer program is being claimed as part of an otherwise statutory manufacture or machine, the claim remains statutory irrespective of the fact that a computer program is included in the claim. Since claim 1 recites an otherwise statutory manufacture or machine, e.g., the computer, network, and network adapter, as recited

in claim 1, notwithstanding the inclusion of steps performed by the computer, claim 1 is directed to statutory subject matter.

In addition, MPEP 2106(2)(b) provides that if a physical transformation occurs outside the computer, a disclosure that permits a skilled artisan to practice the claimed invention, i.e., "to put it to a practical use," is sufficient for the claim to be a statutory process claim. Regarding claim 1, a physical transformation occurs outside the computer when the internet protocol address to is assigned to the network adapter via said network. For example, it is known in the art that assigning an internet protocol address to a device, such as a network adapter outside the computer, causes a physical change in the device at an electronic level in the device's memory storage unit which stores the internet protocol address. A practical application of claim 1 is that a device on a computer network can be assigned an IP address automatically, without the overhead of supporting the traditional address assignment protocols, such as DHCP, within the devices themselves, as set forth in Applicants' disclosure at page 2, lines 11-14.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that claim 1 is directed to statutory subject matter under 35 U.S.C. §101 as being a new or useful process, machine, manufacture, or composition of matter, or any new or useful improvement thereof. Applicants thus respectfully request that the rejection of claim 1 under 35 U.S.C. §101 be withdrawn.

Claim 11 is directed to a method of automatically assigning an internet protocol address to a device. Claim 11 recites providing a network; providing a computer communicatively coupled to said network; providing a low-cost network adapter to communicatively couple said device to said network, said network providing communicative

interconnection between said computer and said low-cost network adapter; said computer performing the steps of: broadcasting a discovery packet on said network; receiving a response from said low-cost network adapter; determining if said low-cost network adapter has a valid internet protocol address; wherein if said low-cost network adapter does not have a valid internet protocol address, then said computer performing the steps of: generating an internet protocol address; incorporating said internet protocol address in an address resolution protocol probe; sending said address resolution protocol probe on said network; and determining whether a response to said address resolution protocol probe indicates that said internet protocol address is in use; wherein if said internet protocol address is not in use, then performing the step of assigning said internet protocol address to said low-cost network adapter via said network.

For substantially the same reasons as set forth above with respect to claim 1, Applicants respectfully submit that claim 11 is directed to statutory subject matter under 35 U.S.C. §101 as being a new or useful process, machine, manufacture, or composition of matter, or any new or useful improvement thereof. Applicants thus respectfully request that the rejection of claim 11 under 35 U.S.C. §101 be withdrawn be withdrawn.

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Cheshire, S., Current Meeting Report, Cheshire, et al., 03/99. Applicants respectfully request reconsideration in view of the following.

Cheshire, et al. is directed to home networks (page 1). Cheshire, et al. discloses, in meeting minutes pertaining to automatic IP address assignment for a link local address with IPv4 (page 1), a basic overview of the operation of an IPv4 address self configuration as currently implemented in the Apple MAC operating system OS 8.5 (pages 2-3). The IPv4

operation includes picking a random address, sending an ARP probe to verify that the address is not already in use, and if the address is in use, iterating the picking and repeating steps 10 times at most, otherwise configuring the interface with the IP address (page 3).

Applicants believe that claim 1 patentably defines Applicants' invention over Cheshire, et al., for at least the reasons set forth below.

Claim 1 is directed to a method of automatically assigning an internet protocol address to a device. Claim 1 recites providing a network; providing a computer communicatively coupled to said network; providing a network adapter to communicatively couple said device to said network, said network providing communicative interconnection between said computer and said network adapter; said computer performing the steps of: generating an internet protocol address; incorporating said internet protocol address in an address resolution protocol probe; sending said address resolution protocol probe on said network; and determining whether a response to said address resolution protocol probe indicates that said internet protocol address is in use; wherein if said internet protocol address is not in use, then performing the step of assigning said internet protocol address to said network adapter via said network.

Applicants believe that claim 1 patentably defines Applicants' invention over Cheshire, et al., for at least the reasons set forth below.

Applicants hereby incorporate by reference the arguments pertaining to claim 1 as set forth by Applicants in their previous Amendment under 37 C.F.R. 1.116, mailed February 27, 2004.

In contrast to a computer assigning an internet protocol address to a network adapter *via a network*, wherein the network adapter is associated with a device *other than the*

computer and communicatively couples the device to the network, and wherein the computer is communicatively interconnected with that network adapter via the network, as recited in claim 1, Cheshire clearly discloses "IPv4 **self-configuration**" (bottom of page 2 of Cheshire, emphasis added), and discloses configuring the interface with an IP address (middle of page 3 of Cheshire). Cheshire does not disclose, teach, or suggest what interface is being configured with the IP address, and clearly does not disclose, teach, or suggest that the computer assigns the IP address to the interface via a network that communicatively interconnects the interface with the computer.

Rather, those skilled in the art would recognize that a computer that performs a *self-configuration*, as explicitly disclosed by Cheshire, configures *the interface, i.e., the network adapter that connects the computer itself to the network.* Hence, Cheshire discloses that the Cheshire computer configures *its own interface* with the IP address, not a network adapter associated with another device that is communicatively interconnected with the computer via the network, as recited in claim 1.

In response to Examiner's Response to Arguments, wherein the Examiner asserts that there is no novelty, nor is the applied reference (Cheshire) overcome by adding to the claim that the network provides communicative interconnection between the computer and the network adapter, and that the computer assigns the internet protocol address to the network adapter via the network, as recited in claim 1, Applicants respectfully submit as follows.

Claim 1 is novel with respect to Cheshire and is not anticipated by Cheshire at least because claim 1 contemplates a computer that assigns an IP address to a network adapter *that is not associated with the computer that performs the assignment*, but rather, a network

adapter that is associated with another device, i.e., that communicatively couples the other device to the network, and is interconnected with the computer via the network.

Cheshire, on the other hand, explicitly discloses self-configuration, which is known in the art in the context of the Cheshire disclosure as a computer configuring its own network adapter, that is, configuring the network adapter that is physically installed into or connected directly to the computer. It is well known in the art that a network adapter installed in or connected directly to a computer does not communicate with the computer via a network, but rather, the network adapter is hardwired into the computer, physically plugged into the computer, or otherwise physically connected to the computer, and communicates with the computer via the hardwire or physical connection, thus allowing the computer to communicate with the network. Applicants' novel approach, in contrast to Cheshire, claims a computer assigning an IP address to a network adapter that is not directly connected to or installed in the computer or otherwise associated with the computer, but rather, is associated with another device, connecting the other device to the network, and is only in communication with the computer via the network.

A computer that configures its own network adapter is well known in the art. However, a computer that configures another network adapter that is associated with another device and *not with the computer*, by assigning an IP address to that network adapter via the network, is novel, and is clearly not disclosed, taught, or suggested by Cheshire. This allows, for example, the use of a network adapter that is unable to configure itself, i.e., a network adapter that does not contain a mechanism for obtaining an IP address, and depends on another computer to do so (see Applicants' specification at page 4, lines 28-31).

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Cheshire, et al. does not disclose, teach, or suggest the subject matter of claim 1. Applicants' thus respectfully request that the rejection of claim 1 under 35 U.S.C. §102(b) be withdrawn.

Claims 2-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., U.S. Patent No. 6,061,739. Applicants respectfully request reconsideration of the rejection of claims 2-6 in view of the following.

Reed, et al. is directed to assigning a network address using a physical address resolution protocol (col. 1, lines 10-11). Reed, et al. discloses a method for assigning a network address to a new device coupled to a network without any additional infrastructure or pre-existing knowledge of the hardware address of the device (col. 4, lines 19-22). After the device is attached to the network, the device attempts to establish a connection on the network, which causes address resolution protocol (ARP) requests to be generated (col. 4, lines 22-25). The device monitors the communications on the network for unanswered ARP requests (col. 4, lines 25-27). When the device sees N unanswered ARP requests (where N is a preset threshold) in a given length of time, the device adopts the requested network address and responds to the ARP with its hardware address (col. 4, lines 27-30, Fig. 2).

Applicants believe that claims 2-6 patentably define Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., taken alone or in combination, for at least the reasons set forth below.

Applicants hereby incorporate by reference the arguments pertaining to claims 2-6 as set forth by Applicants in their previous Amendment under 37 C.F.R. 1.116, mailed February 27, 2004.

Each of claims 2-6 depend directly or indirectly from claim 1. As set forth above with respect to claim 1, Cheshire does not disclose, teach, or suggest the subject matter of claim 1. Applicants respectfully submit that Reed, et al. does not overcome the deficiency of Cheshire, as applied to claim 1, nor does the Examiner assert as much.

For example, like Cheshire, Reed, et al. discloses self configuration of an IP address. As set forth above, Reed et al, discloses that after being attached to a network, a device attempts to establish a connection, causing ARP requests to be generated, and when the device sees N unanswered ARP requests (where N is a preset threshold) in a given length of time, the device adopts the requested network address and responds to the ARP with its hardware address (col. 4, lines 22-30, Fig. 2). Thus, by sending and responding to ARP communications, the device configures itself with an IP address, in contrast to claim 1, wherein a computer performs the step of assigning the internet protocol address to the device (the network adapter) via the network, i.e., the network adapter is configured by the computer via the network, as opposed to configuring itself. As set forth above, this allows the use of a network adapter that is unable to configure itself, i.e., a network adapter that does not contain a mechanism for obtaining an IP address, and depends on another computer to do so (see Applicants' specification at page 4, lines 28-31).

Accordingly, the asserted combination of Cheshire in view of Reed, et al., taken alone or in combination, does not disclose, teach, or suggest the subject matter of claim 1. Claims 2-6 are thus believed allowable due to their dependence on otherwise allowable base claim 1.

Accordingly, for at least the reasons set forth above, including the arguments incorporated by reference, Applicants respectfully submit that Cheshire, et al., in view of Reed, et al., taken alone or in combination, does not disclose, teach, or suggest the subject

matter of claims 2-6, and thus respectfully request that the rejection of claims 2-6 under 35 U.S.C. §103(a) be withdrawn.

Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., and in further view of Mellquist (U.S. Patent 6,115,545). Applicants respectfully request reconsideration in view of the following.

Mellquist is directed to automated internet protocol (IP) address allocation and assignment for the internet protocol (col. 1, lines 7-9). As background, Mellquist discloses the use of a BOOTstrap Protocol (BOOTP) that allows clients to automatically receive all IP configuration information from a configured BOOTP server (col. 2, lines 26-30). In order to define an IP address, a free address in the range of valid addresses must be selected (col. 3, lines 12-14). Addresses are usually administered by a person who allocates these addresses to entities who require them (col. 3, lines 14-15). It is important that duplicate addresses are not allowed since this can cause major trouble (col. 3, lines 16-17). Also, a sub-net mask is required for proper operation, and must be the same on all entities across the sub-net (col. 3, lines 17-19).

The Mellquist apparatus includes a configuration module 41 that acts in place of a BOOTP server to accept and reply to a select set of BOOTP requests from devices, wherein the BOOTP response contains an IP address corresponding to a media access control (MAC) address for the device that submitted the BOOTP request (col. 5, lines 36-45). Once powered up, a network device 33 issues a broadcast BOOTP request 47 which will be picked up by IP configuration module 41, that issues a BOOTP response 48 by which network device 33 will obtain the IP configuration parameters and proceed to initialize (col. 5, line 66 to col. 6, line 5).

Applicants believe that claim 7 patentably defines Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, for at least the reasons set forth below.

Applicants hereby incorporate by reference the arguments pertaining to claim 7 as set forth by Applicants in their previous Amendment under 37 C.F.R. 1.116, mailed February 27, 2004.

Claim 7 depends from claim 1. As set forth above with respect to claims 2-6, Cheshire in view of Reed, et al., taken alone or in combination, does not disclose, teach, or suggest the subject matter of claim 1. Applicants respectfully submit that Mellquist does not overcome the deficiency of Cheshire in view of Reed, et al., as applied to claim 1, nor does the Examiner assert as much.

For example, as set forth above, Mellquist discloses that a network device 33 sends out a BOOTP request, and IP configuration module 41, standing in the place of a BOOTP server, provides a BOOTP response including an IP address to network device 33, which then proceeds to initialize. Thus network device 33 configures itself by obtaining an IP address from IP configuration module 41 that acts in the place of a BOOTP server, a process which is known in the art to be self-configuration. In contrast to a network device that configures itself based on submitting a BOOTP request and receiving a BOOTP response, as disclosed by Mellquist, claim 1 contemplates a computer that performs the step of assigning the internet protocol address to the network device, i.e., the network adapter, via the network. As set forth above, this allows the use of a network adapter that is unable to configure itself, i.e., a network adapter that does not contain a mechanism for obtaining an IP address, and depends on another computer to do so (see Applicants' specification at page 4, lines 28-31).

Accordingly, the asserted combination of Cheshire, et al. in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, does not disclose, teach, or suggest the subject matter of claim 1. Claim 7 is thus believed allowable due to its dependence on otherwise allowable base claim 1.

With regard to determining if the network adapter has a valid internet protocol address, as recited in claim 7, the Examiner again relies on Mellquist at column 3, lines 11-19. The relied-upon language of Mellquist merely discloses that a required free address in the range of valid addresses must be selected (col. 3, lines 12-14), that addresses are usually administered by a person who allocates these addresses to entities who require them (col. 3, lines 14-15), and that duplicate addresses are not allowed (col. 3, lines 16-17). However, such language simply does not disclose, teach, or suggest *determining if the network adapter has a valid internet protocol address.*

For example, the relied upon Mellquist text does not disclose, teach, or suggest finding out if the address is valid by investigation, reasoning, or calculation, as would constitute determining if the address is valid. Rather, the relied upon text simply indicates that a free address must be used, indicates who usually provides the addresses, and indicates that duplicate addresses are not allowed. Accordingly, claim 7 is believed allowable in its own right.

Accordingly, for at least the reasons set forth above Applicants respectfully submit that Cheshire, et al., in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, does not disclose, teach, or suggest the subject matter of claim 7, and thus respectfully request that the rejection of claim 7 under 35 U.S.C. §103(a) be withdrawn.

Claims 8-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, Request for Comments: 2563, May 1999, Troll R. Applicants respectfully request reconsideration of the rejection of claims 8-25 in view of the following.

Troll is directed to disabling stateless auto-configuration in IPv4 clients (page 1), and allowing a DHCP client to determine whether or not it should assign itself a "link-local" address (page 2). Troll also discloses an auto-configure option which allows a DHCP client to determine whether or not it should generate a link-local IP address.

Applicants believe that claim 8 patentably defines Applicants' invention over the cited references, Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, for at least the reasons set forth below.

Applicants hereby incorporate by reference the arguments pertaining to claims 8-25 as set forth by Applicants in their previous Amendment under 37 C.F.R. 1.116, mailed February 27, 2004.

Claim 8 depends from claim 7, which depends from claim 1. As set forth above with respect to claim 7, Cheshire in view of Reed, et al., and in further view of Mellquist, taken alone or in combination, does not disclose, teach, or suggest the subject matter of either of claims 1 or 7. Applicants respectfully submit that Troll does not overcome the deficiency of Cheshire in view of Reed, et al., in further view of Mellquist, nor does the Examiner assert as much.

For example, as set forth above, and as acknowledged by the Examiner, Troll is directed to a DHCP client *assigning itself* an IP address, which is known in the art as self assignment, or self configuration. In contrast, however, claims 1 and 7 contemplate a

computer that performs the step of assigning the internet protocol address to the network device, i.e., the network adapter, via the network. As set forth above, this allows the use of a network adapter that is unable to configure itself, i.e., a network adapter that does not contain a mechanism for obtaining an IP address, and depends on another computer to do so (see Applicants' specification at page 4, lines 28-31).

Accordingly, the asserted combination of Cheshire, et al. in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, does not disclose, teach, or suggest the subject matter of claims 1 and 7. Claim 8 is thus believed allowable due to its dependence on otherwise allowable claims 1 and 7.

Claims 9-25 are believed allowable for substantially the same reasons as set forth above with respect to claims 1, 2-6, 7, and 8, and due to dependence on the respective base claims.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Cheshire, et al., in view of Reed, et al., in further view of Mellquist, and in further view of Troll, taken alone or in combination, does not disclose, teach, or suggest the subject matter of claims 8-25, and thus respectfully request that the rejection of claims 8-25 under 35 U.S.C. §103(a) be withdrawn.

For the foregoing reasons, Applicants submit that the appended claims are directed to statutory subject matter, and that no combination of the cited references teaches, discloses or suggests the subject matter of the appended claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,

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